REMARKS

This current Reply is responsive to a current and final Office Action that is dated 06/14/2005. Of pending claims 1-32, claims 1, 6, and 25 have been amended in this current Reply.

The current Office Action rejected claims 1-32 based on a U.S. Patent. Specifically:

> Claims 1-32 were "rejected under 35 U.S.C. 102(e)/103(a) as as being anticipated by/unpatentable over Aharoni et al. (US 6,014,694), hereafter 'Aharoni'."

Of pending claims 1-32, claims 1, 6, 12, 14, 19, and 25 are independent. They are each individually addressed below. Independent claim 12 is addressed below in section I. Independent claims 1, 14, and 25 are addressed below in section II. Independent claims 6 and 19 are addressed below in section III.

I. Aharoni et al. neither describes nor renders obvious the discarding of packets at a sending device.

A. Claim 12 reads:

A computer-readable media comprising computer instructions for performing acts comprising:

generating prioritization information based at least in part on at least one parameter associated with an application streaming media information;

associating packets of the media information with a service class selected from a plurality of different service classes based on the prioritization information;

selectively discarding a portion of the packets of the media information in accordance with an adaptive rate control mechanism at a sending computing device; and

selectively outputting some of the packets of media information based on their respective service class priority levels.

B. The current Office Action reads on page 11 at paragraph #37:

As to point (3), Aharoni describes discarding packets at the sender (col. 12, lines 42-55).

C. Aharoni et al. reads at column 12, lines 42-55:

The packet generator 102 functions to receive the frames having video data from a particular compression level and encapsulate them into packets for transmission over the network. The assembled packets are output to the packet transmitter 104 which is responsible for delivery of the packets over the network. In addition, to preparing packets from the frames received, the packet generator functions to determine which (if any) frames to skip. Depending on the measured bandwidth of the channel, the packet generator may skip frames in order to reduce the transmitted bit rate. This occurs when the bandwidth of the network connection

cannot support transmission of every Key, P and B frame. The method of choosing which frames to select is described in more detail hereinbelow.

D. It is respectfully submitted that the above-quoted and cited portion of Aharoni et al. fails to describe or render obvious the discarding of packets at a sending computing device.

Aharoni et al. does appear to describe the skipping of frames. Skipping frames may ultimately cause fewer packets to be created. However, even assuming, *arguendo*, that skipping frames results in a reduction in the total number of packets created at (and thus a reduction in the total number of packets sent from) a sending device, no packets are actually discarded.

Accordingly, no art of record, either alone or in any combination, anticipates or renders obvious at least the following element(s) in conjunction with the other elements of claim 12: **selectively discarding a portion of the packets of the media information in accordance with an adaptive rate control mechanism at a sending computing device.**

II. Aharoni et al. neither describes nor renders obvious the inclusion of multiple priorities within a single session.

A. Claim 1 reads:

A method comprising;

compressing video objects;

generating at least one corresponding elementary stream comprising the compressed video objects;

classifying information within each elementary stream based on importance and responsive to the compressed video objects; and

assembling the classified information into packets associated with different classes of network packets that belong to a single session.

B. Claim 14 reads:

An apparatus comprising:

logic configured to process content information output by an application layer process and provide resulting processed content information to a network layer process, the logic implementing at least one protocol layer process configured to packetize the content information, *a queuing layer process configured to prioritize the packetized content information in accordance with different priorities within a single session*, and a scheduling layer process configured to selectively provide the prioritized packetized content information to the network layer process based on at least one quality of service parameter.

C. Claim 25 reads:

A system comprising:

a network environment including a backbone network, and a first access network and a second access network each being operatively coupled to the backbone network;

a plurality of host devices including a first host device operatively coupled to the first access network and a second host device operatively coupled to the second access network; and

a plurality of application-aware resource controllers including a first application-aware resource controller operatively configured within the first access network and a second application-aware resource controller operatively configured within the second access network, *wherein the first application-aware resource controller is configured to selectively aggregate content information associated with a single communication session established between the first host device and the second host device via the network environment, and mapping the aggregated information to at least two service classes selected from a group of two or more different service classes.*

D. The current Office Action reads on page 11 at paragraph #38:

As to [point] (4), Aharoni discloses a qucuing layer process configured to prioritize the packetized content information in accordance with different priorities within a single session (col. 9, lines 56-61).

E. Aharoni et al. reads at column 9, lines 56-61:

The raw video source is compressed into multiple types of frames comprised of video data having varying degrees of quality since the network cannot guarantee any particular bandwidth or an error free network connection. Thus, these multiple frame types can be assigned varying degrees of importance or priority. The most important of all the frame types are the Key frames which are assigned the highest priority.

F. It is respectfully submitted that the above-quoted and cited portion of Aharoni et al. fails to describe or render obvious the inclusion of multiple priorities within a single session.

Aharoni et al. does not appear to address in any manner in the referenced portion of Aharoni et al. the concept of a "session." Session is not described either in the context of a communication layer or a communication state. Hence, Aharoni et al. cannot describe multiple priorities within a single session.

Accordingly, no art of record, either alone or in any combination, anticipates or renders obvious at least the following element(s) in conjunction with the other elements of their respective claims:

Claim 1: **assembling the classified information into packets associated with different classes of network packets that belong to a single session.**

Claim 14: **a queuing layer process configured to prioritize the packetized content information in accordance with different priorities within a single session.**

Claim 25: **wherein the first application-aware resource controller is configured to selectively aggregate content information associated with a single communication session established between the first host device and the second host device via the network environment, and mapping the aggregated information to at least two service classes selected from a group of two or more different service classes.**

III. Aharoni et al. neither describes nor renders obvious the prioritization of packets based on user interaction.

A. Claim 6 reads:

A method comprising:

packetizing content information;

generating resource coordination information based at least in part on at least one prioritizing parameter associated with an application communicating the content information and on one or more prioritizing parameters associated with a user interaction;

selectively associating each packet of content information with a service class selected from among at least two different service classes based on the resource coordination information;

selectively outputting at least one packet of content information based on a priority associated with the service class associated with the packet of content information; and

providing the at least one packet of content information to a network.

B. Claim 19 reads:

An apparatus comprising:

packetizer logic configured to receive encoded content information and output corresponding packets of content information;

collaborator logic operatively coupled to the packetizer logic and configured to receive at least one prioritizing parameter associated with at least one application, including an application communicating the content information, and *one or more prioritizing parameters associated with a user interaction; the collaborator logic further configured to output resource coordination information based at least in part on the at least one prioritizing parameter associated with the application and the one or more prioritizing parameters associated with the user interaction*;

priority mapping logic operatively coupled to the collaborator logic and configured to receive the packetized content information and the resource coordination information, and selectively associate each received packet of content information with a service class selected from among at least two different service classes based on the resource coordination information, and selectively output at least one packet of content information based on a priority associated with each service class; and

forwarder logic operatively coupled to the priority mapping logic and configurable to provide the at least one packet of content information to a network.

C. The current Office Action reads on page 11 at paragraph #39:

As to point (5), Aharoni discloses prioritization resulting from user interaction feedback (col. 7, line 60 to col. 8, line 17; and col. 19, lines 15-21).

D. Aharoni et al. reads at column 7, line 60 to column 8, line 17 and at column 19, lines 15-21:

The sender functions to accept video frame data from the receiver and encapsulate the video data into packets for transmission of the network to the client. Each client that requests a connection to be established causes an instance of the sender to be created. Requests for multiple video sources from the same client cause additional instances of the sender to be created. The sender functions to assemble packets for transmission from the video source data input to the receiver. The packets are formed on the basis of the current choice for the level of video transmission quality. Based on bandwidth measurements, the sender determines the appropriate level of quality to transmit to the client to best match the available bandwidth. Assembled packets are sent to the network for delivery over the network connection to the video client(s).

The sender also measures the available bandwidth of the network connection between the video server and the video client. As described in more detail, the sender utilizes the bandwidth measurements to determine the appropriate

> video quality level to send over the connection. If too low a video quality is chosen then network bandwidth is wasted and a better picture could be hand the client display. On the other hand, if too high a video level is chosen then too much data may become lost or computed which also causes the quality of the picture on the client display to suffer.
>
> [...]
>
> In addition, the video client 220 is adapted to issue the video file requests to the rate controller 222 rather than to any of the video servers 1 through N. Throughout the video transmission session, the video client 220 functions to return acknowledgments and statistics to the rate controller 222. The rate controller uses the acknowledgments and statistics returned by the video client 220 in order to calculate the optimum compression (resolution) level to use.

E. It is respectfully submitted that the above-quoted and cited portion of Aharoni et al. fails to describe or render obvious the prioritization of packets based on user interaction.

Aharoni et al. does appear to address compression determination using statistics received from a video client. Even assuming, *arguendo*, that there is some relevant relationship between a compression determination and prioritization or service class, there is no user interaction described or suggested in Aharoni et al., including in the referenced portion as reproduced above.

Accordingly, no art of record, either alone or in any combination, anticipates or renders obvious at least the following element(s) in conjunction with the other elements of their respective claims:

Claim 6: **generating resource coordination information based at least in part on at least one prioritizing parameter associated with an application communicating the content information and on one or more prioritizing parameters associated with a user interaction . .**

. selectively associating each packet of content information with a service class selected from among at least two different service classes based on the resource coordination information.

Claim 19: **one or more prioritizing parameters associated with a user interaction; the collaborator logic further configured to output resource coordination information based at least in part on the at least one prioritizing parameter associated with the application and the one or more prioritizing parameters associated with the user interaction . . . priority mapping logic operatively coupled to the collaborator logic and configured to receive the packetized content information and the resource coordination information, and selectively associate each received packet of content information with a service class selected from among at least two different service classes based on the resource coordination information.**

Reasons for the allowability of independent claims 1, 6, 12, 14, 19, and 25 have been provided above. Claims 2-5, 7-11, 13, 15-18, 20-24, and 26-32 depend from the independent claims 1, 6, 12, 14, 19, and 25, respectively. Although each also includes additional element(s) militating toward allowability, it is respectfully submitted that these dependent claims are allowable at least for the reasons given above in connection with their respective independent claims.

CONCLUSION

It is respectfully submitted that all of the pending claims 1-32 are allowable, and prompt action to that end is hereby requested.

Respectfully Submitted,

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